

Work Order ID 58635

Wednesday, May 12, 2010 1:23:11 PM

Page 1

Item ID: D3688-1

Accept

Setup Start

Revision ID:

Item Name: STUD

Stop

Start Date: 5/13/2010 Start Qty: 5.00

Cust Item ID:

Required Date: 5/21/2010 Req'd Qty: 5.00

Customer:




Reference:

Approvals: Process Plan: mf Date: 10-5-12 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3688	Rev <u>B</u> <u>C</u> → <u>write up on w/ 59668 for change</u>								
100	BAND SAW	0.00							
	Bandsaw	0.00							
Jeaspa Bandsaw	Memo ***DO NOT USE CHOP SAW***								
				<input type="checkbox"/> Cut blank 11.673" long					
110	DOOSAN LATHE	0.00							
	Doosan	0.00							
Doosan Lathe	Memo 1-Turn as per Folio FA718 Rev: <u>NA</u> & Dwg D3688 Rev: <u>C</u> <input type="checkbox"/> 2-Deburr per dwg D3688 3-Check .625" bore with DT9530 GO/NO GO Gauge								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
	QC	0.00							
Quality Control	Memo								

SL 10/06/23

SL 10/06/26

SL 10/06/26

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)					
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130



Lathe Conv

Conventional Lathe

CONVENTIONAL LATHE

0.00

Memo

0.00

Face to finished length as per dwg D3688 AND center drill as per Dwg D3688

140



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00

150



Doosan

Doosan Lathe

DOOSAN LATHE

0.00

Memo

0.00

1- Turn as per Folio FA718 Rev: & Dwg D3688 Rev: ☐ 2-Deburr
per dwg D3688

N/A
write up
on W/O 59668
to change

W/O:			WORK ORDER CHANGES					
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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

QC2- Inspect parts off machine FAI/FAIB

0.00

N/A



QC

Memo

0.00

Quality Control

170

QC8- Inspect parts - second check

0.00

SP 10/06/28



QC

Memo

0.00

Quality Control

5

0

180

PURCHASING

0.00



Purchasing

Memo

0.00

Purchasing

Issue P/O: 12200

☐ LPI Per ASTM 1417 LEVEL

2 ☐ Certificate of conformaty is required

CL 10/7/11 (5)

W/O:			WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 5/21/2010 Req'd Qty: 5.00

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

QC: Date: SPC (Y/N): Date:

Run Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

Receive & Inspect for Damage & Mat'l Certs

0.00



Packaging

Memo

0.00

Packaging

Ensure certificate of conformity is attached

[Signature] 01 05 (5)

200

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

[Signature] 10 07 05 (5)

210

Identify as per dwg & Stock Location: 075

0.00



Packaging

Memo

0.00

Packaging

[Signature] 05 (5)

W/O:			WORK ORDER CHANGES					
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Customer:

Reference:

Run Start

Approvals: Process Plan: Date: Tooling: Date:

Stop

QC: Date: SPC (Y/N): Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

C21017105

10.0706

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries

Picklist Print

Wednesday, May 12, 2010 1:23:10 PM

Page 1

Work Order ID: 58635



Parent Item: D3688-1



Parent Item Name: STUD

Start Date: 5/13/2010

Required Date: 5/21/2010

Comments: IPP Rev:A New Issue 08-01-29 JLM Verified By:EC
IPP Rev:B Material Change 09-01-07 JLM Verified By:EC
IPP Rev:C Added note on Step 2 09-01-26 JLM Verified By:EC

Start Qty: 5.00

Required Qty: 5.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Qty per Kit	Qty	Date	Status
M174PH-H900R1.000		Purchased	No			100	f	63.1000	1.087			



17-4SS H900 ROUND BAR 1.00

Location

Loc Qty

Loc Code

MAT030

63.1

112374

1.5

112570

61.6

4.9

SL 10/06/23

W/O:			WORK ORDER CHANGES					
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NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 58635
Description: Stud		Part Number: D3688-1
Inspection Dwg: D3688	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.695	+/-0.010					
0.625	+0.004/-0.000					
1.25	+0.000/-0.03					
118°	0.5°					
R0.03	+/-0.030					
0.11 Ref	+/-0.030					
90°	0.5°					
Ø0.189	+0.005/-0.001					
1.31	+/-0.030					
1.65	+/-0.030					
0.870	+0.000/-0.010					
Ø0.659	+0.000/-0.015					
11.573	+/-0.015					
2.90	+/-0.030					
3/4-16UNF-2A	N/A					
0.075 x 45°	+/-0.010 x 0.5°					
0.370	+0.000/-0.010					
Ø0.189	+0.005/-0.001					
R0.25	+/-0.030					
R0.50	+/-0.030					

Measured by:	JL
Date:	10/06/20

Audited by:	LF
Date:	10/06/20

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	
B	09.11.04	Dwg Rev updated	KJ	

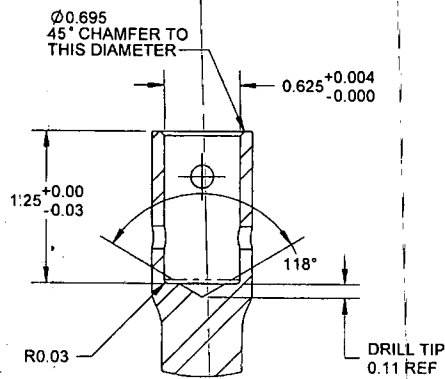
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

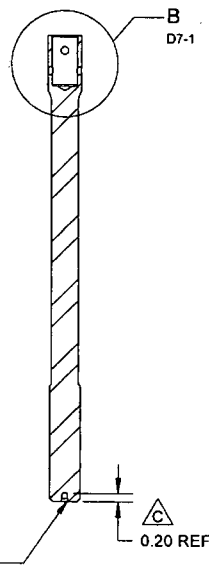
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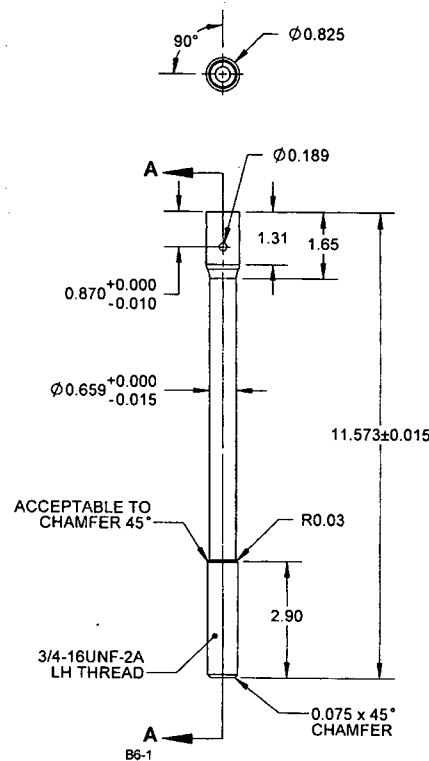
NOTE: Date & initial all entries



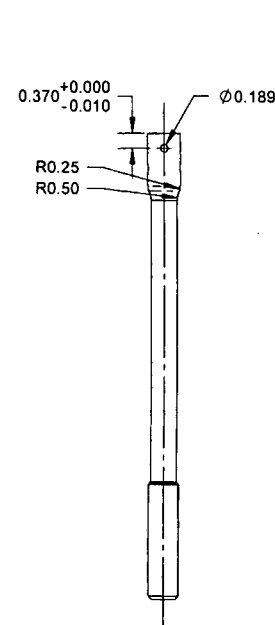
DETAIL B
SCALE 3X
D6-1



SECTION A-A
D4-1



D3688-1 STUD



RELEASED
2009-09-22

NOTES:

- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART/QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.24 lb
- 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

C	0.20 WAS 0.16 (ZN B5-1, B5-2, B6-3, B5-4); CENTER DRILL #4 WAS CENTER DRILL #2 (ZN B6-1, B6-2, B5-3, B6-4); UPDATE NOTE 8 TO REF QSI (ZN A8-1, A8-2, A8-3, A8-4)	RF	09.09.09
B	CHANGE TO 17-4PH H-900 (ZN A8-1, A8-2, A8-3, A4-4); REDUCE LENGTH ON D3688-1 FROM 12.073 TO 11.573 (ZN C3-1) BASED ON PROTOTYPE INSTALL; Ø0.695 WAS Ø0.665 (ZN D8-1, D8-2, D8-3); Ø0.508 WAS Ø0.478 (ZN D8-4); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.05.22
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RF		
CHECKED	97		
MFG. APPR.	21		
APPROVED	140		
DE APPR.	14		
DATE	09.09.09		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D3688** REV. C
SHEET 1 OF 4
TITLE **STUD** SCALE NTS

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries



LIQUID PENETRANT TEST REPORT

P- 15329

CLIENT	DACT AEROSPACE	DATE	JUL 22 2010	PAGE	1	OF	1	
ATTENTION	LINDA CHANTEL	ACUREN JOB NO.	188-10-0776	TIME	AM	<input checked="" type="checkbox"/>	PM	<input type="checkbox"/>
ADDRESS	1270 ABERDEEN ST. HAWKESBURY, ON. K6H 1K7	PO/WO NO.	12200	WORK LOCATION	MAIN SHOP - HAWKESBURY			
PROJECT	F.P.I. on CROSS TUBES & MACHINED PARTS	ACCEPTANCE STD.	ASTM 1417	REV./DATE	2007			
ITEM(S) EXAMINED	Four CROSS TUBES ELEVEN MACHINED STUDS.							

JOB DESCRIPTION	PROCEDURE NO. LT-0002	REV./DATE	TECHNIQUE NO. LT-2	REV./DATE		
PART NO.	—		MATERIAL	S. STEEL	THICKNESS	ALUMINE -
SCOPE	WET FLOUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT 100% EXTERNAL ALUMINIUM					

TEST DETAILS								
METHOD	<input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED			
FAMILY BRAND	MAGNAFLUX		BLACK LIGHT S/N	16454	<input type="checkbox"/> OUTPUT > 1000 μ W/cm ²	<input type="checkbox"/> AMBIENT < 2 fc		
PENETRANT	ZL 67	MINIMUM DWELL TIME	450	MIN.	LIGHTING EQUIP.	<input type="checkbox"/> FLASHLIGHT	<input type="checkbox"/> TROUBLELIGHT	<input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER	H20	MINIMUM DRY TIME	> 10	MIN.	OTHER	LABING		
DEVELOPER	SKD 52	MINIMUM DWELL TIME	10	MIN.	LIGHT METER S/N	1098866	CAL DUE DATE	OCT. 19 2010
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY					

TEST SURFACE					
SURFACE CONDITION	<input type="checkbox"/> AS GROUND	<input type="checkbox"/> AS WELDED	<input checked="" type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/ 20°F	<input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F	<input checked="" type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F	

RESULTS- (☐ METRIC ☐ IMPERIAL)

6 - STUDS - W.O. 59668	✓	INDICATIONS ON CROSS TUBES. W.O. # 59975 W.O. # 59976 W.O. # 58388 IN PROCESS TO BE REMOVED
5 - STUDS - W.O. 58635	✓	
1 - CROSS TUBE - W.O. 59975	✓	
1 - CROSS TUBE - W.O. 59976	✓	
1 - CROSS TUBE - W.O. 58387	✓	
1 - CROSS TUBE - W.O. 58388	✓	

Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE	Jason Murdoch	PRINT	SIGNATURE	DTR #	EG3366
TECHNICIAN (SIGNATURE):	Mike Johnston	1 st TECHNICIAN	2 nd TECHNICIAN	REPORT REVIEWED BY:	NAME INITIALS
NAME (PRINT):	Mike Johnston	CGSB LEVEL	SNT LEVEL	CGSB LEVEL	SNT LEVEL
	CGSB REG. NO.	6606	CGSB REG. NO.		

WHITE - CLIENT COPY

CANARY - OFFICE COPY

PINK - TECHNICIAN COPY

GOLD - OFFICE COPY